

FAX RECEIVED
MAR 7 2001**FACSIMILE COVER SHEET
PTO**

FROM: ASHWIN MEHTA

ART UNIT: 1638

SERIAL NO: PCT/US00/22725

TEL. NO: 703-306-4540

TO: Jason Schwartz

COMPANY: _____

FAX 1317-637-7561

NUMBER: _____

OF 9

PAGES: _____

(including this
page)

PARENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: SCHWARTZ, JASON J.
WOODARD, EMHARDT, NAUGHTON, MORIARTY
& MCNETT
BANK ONE CENTER/TOWER, SUTIE 3700
111 MONUMENT CIRCLE
INDIANAPOLIS, INDIANA 46204

FILE COPY 220

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL SEARCH REPORT
OR THE DECLARATION

(PCT Rule 44.1)

Form PCT/ISA/220 (July 1998) DO NOT MAIL

Date of Mailing (day/month/year)	
Applicant's or agent's file reference 7024473P118	FOR FURTHER ACTION See paragraphs 1 and 4 below
International application No. PCT/US00/22725	International filing date (day/month/year) 18 AUGUST 2000
Applicant PURDUE RESEARCH FOUNDATION	

1. ☐ The applicant is hereby notified that the international search report has been established and is transmitted herewith.

Filing of amendments and statement under Article 19:

The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

When? The time limit for filing such amendments is normally 2 months from the date of transmittal of the international search report; however, for more details, see the notes on the accompanying sheet.

Where? Directly to the International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland
Facsimile No.: (41-22) 740.14.35

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

3. ☒ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☒ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. Further action(s): The applicant is reminded of the following:

Shortly after 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in rules 90 bis 1 and 90 bis 3, respectively, before the completion of the technical preparations for international publication.

Within 19 months from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).

Within 20 months from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the priority date or could not be elected because they are not bound by Chapter II.

Facsimile No.

(703) 305-3230

Authorized officer AND Telephone No.

ASHWIN MEHTA

(703) 308-0196

PATENT COOPERATION TREATY FILE COPY 210

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Form PCT/ISA/210 (first sheet) (July 1998) DO NOT MAIL

Applicant's or agent's file reference 7024473P118	<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;">FOR FURTHER ACTION</div> <div style="width: 70%;">see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.</div> </div>	
International application No. PCT/US00/22725	International filing date (day/month/year) 18 AUGUST 2000	(Earliest) Priority Date (day/month/year) 20 AUGUST 1999
Applicant PURDUE RESEARCH FOUNDATION		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of ____ sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☒ contained in the international application in written form.
☒ filed together with the international application in computer readable form.
☒ furnished subsequently to this Authority in written form.
☒ furnished subsequently to this Authority in computer readable form.
☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.
2. ☐ Certain claims were found unsearchable (See Box I).
3. ☒ Unity of invention is lacking (See Box II).
4. With regard to the title,

☒ the text is approved as submitted by the applicant.
☐ the text has been established by this Authority to read as follows:
5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.
☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.
6. The figure of the drawings to be published with the abstract is Figure No. ____

☐ as suggested by the applicant.
☐ because the applicant failed to suggest a figure.

☐ None of the figures.

INTERNATIONAL SEARCH REPORT

Form PCT/ISA/210 (continuation of first sheet(1)) (July 1998)

FILE COPY - DO NOT MAIL

International application No.

PCT/US00/22725

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Please See Extra Sheet.

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☒ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Form PCT/ISA/210 (continuation of first sheet(2))(July 1998)

FILE COPY - DO NOT MAIL

International application N .

PCT/US00/22725

Box III TEXT OF THE ABSTRACT (Continuation of item 5 of the first sheet)

INTERNATIONAL SEARCH REPORT
Form PCT/ISA/210 (second sheet) (July 1998)
FILE COPY - DO NOT MAIL

International application N.
PCT/US00/22725

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : Please See Extra Sheet.

US CL : Please See Extra Sheet.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 435/69.1, 320.2, 410, 419, 455, 468, 471; 536/23.1, 23.5, 23.6; 800/21, 278, 286, 287, 290, 295, 298

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

West, Agricola, Medline, Caplus

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A, P	OGAS et al. PICKLE Is A CHD3 Chromatin-Remodeling Factor That Regulates The Transition From Embryonic To Vegetative Development In Arabidopsis. Proc. Natl. Acad. Sci. USA. 23 November 1999. Vol. 96. No. 24. pages 13839-13844, see whole document.	1-83
X --- Y	JIN et al. Isolation And Characterization Of Hrp1+, A New Member Of The SNF2/SWI2 Gene Family From The Fission Yeast Schizosaccharomyces pombe. Mol. Gen. Genet. 1998. Vol. 257. pages 319-329, especially pages 321-324, 326-327.	58, 63, 64, 67, 69, 70, 71, 74, 80 ----- 1, 3-15, 21-23, 25, 26, 30-33, 37, 40, 42, 44, 45, 49, 52

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
A document defining the general state of the art which is not considered to be of particular relevance	*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
B earlier document published on or after the international filing date	*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*Z* document member of the same patent family
O document referring to an oral disclosure, use, exhibition or other means	
P document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search
26 FEBRUARY 2001

Date of mailing of the international search report

Facsimile No. (703) 305-3230

Authorized officer AND Telephone No. 
ASHWIN MEHTA

(703) 308-0196

INTERNATIONAL SEARCH REPORT
Form PCT/ISA/210 (continuation of second sheet) (July 1998)
FILE COPY - DO NOT MAIL

International application No.
PCT/US00/22725

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	WOODAGE et al. Characterization Of The CHD Family Of Proteins. Proc. Natl. Acad. Sci. USA. October 1997. Vol. 94. pages 11472-11477, see whole document.	58, 63, 64, 67, 69-71, 74, 80 ----- 1-15, 21-26, 30- 33, 37, 40, 42, 44, 45, 49, 52
X --- Y	STOKES et al. CHD1 Is Concentrated In Interbands And Puffed Regions Of Drosophila Polytene Chromosomes. Proc. Natl. Acad. Sci. USA. July 1996. Vol. 93. pages 7137-7142, see pages 7138-7141.	58, 63, 64, 67, 69, 70, 71, 74, 80 ----- 1, 3-14, 21-26, 30-33, 37, 40, 42, 44, 45, 49, 52
X --- Y	DELMAS et al. A Mammalian DNA-Binding Protein That Contains A Chromodomain And An SNF2/SWI2-Like Helicase Domain. Proc. Natl. Acad. Sci. USA. March 1993. Vol. 90. pages 2414-2418, especially pages 2415, 2416, 2418.	58, 63, 64, 67, 69, 70, 71, 74, 80 ----- 1, 3-14, 21-26, 30-33 37, 40, 42, 44, 45, 49, 52

INTERNATION SEARCH REPORT

Information on patent family members

Form PCT/ISA/210 (patent family annex) (July 1998)

FILE COPY - DO NOT MAIL

International application No.

PCT/US00/22725

[Empty rectangular box for report content]

INTERNATIONAL SEARCH REPORT
Form PCT/ISA/210 (extra sheet) (July 1998)
FILE COPY - DO NOT MAIL

International application No.
PCT/US00/22725

A. CLASSIFICATION OF SUBJECT MATTER:
IPC (7):

C12N 5/04, 15/00, 15/12, 15/29, 15/63, 15/64, 15/82, 15/85, 15/87 15/90; A01H 5/00; C07H 21/02, 21/04

A. CLASSIFICATION OF SUBJECT MATTER:
US CL :

435/69.1, 320.2, 410, 419, 455, 468, 471; 536/23.1, 23.5, 23.6; 800/21, 278, 286, 287, 290, 295, 298

BOX II. OBSERVATIONS WHERE UNITY OF INVENTION WAS LACKING
This ISA found multiple inventions as follows:

This application contains the following inventions or groups of inventions which are not so linked as to form a single inventive concept under PCT Rule 13.1. In order for all inventions to be searched, the appropriate additional search fees must be paid.

Group I, claim(s) 1-15, 18-37, 55-75, and 77-79, drawn to a first method of transforming any host cell, comprising introducing into any host cell a nucleic acid molecule encoding a protein having at least one chromo domain, a helicase domain, and a DNA binding domain, or wherein said protein encodes PKL; a first product a recombinant nucleic acid molecule comprising said nucleic acid molecule and a foreign promoter, and a transgenic plant comprising said nucleic acid molecule.

Group II, claim(s) 16 and 17, drawn to a second method, of transforming any host cell, comprising introducing into any host cell a nucleic acid molecule encoding a protein having a point mutation in lysine 304.

Group III, claim(s) 38-54 and 76, drawn to a third method, of transforming any host cell, comprising introducing into any host cell an antisense DNA or RNA molecule; and a second product, a transgenic plant comprising said antisense DNA or RNA molecule.

Group IV, claims 80-83, drawn to a third product, a recombinant protein, and a fourth method, of producing a PKL protein.

The inventions listed as Groups I-IV do not relate to a single inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The method of Group I does not share the non-mutated nucleic acid molecule with Group II, III, or IV. The mutant sequence of Group II is not shared with any of the other groups. The antisense molecules of the method of Group III is not shared with the method nucleotide sequences of Group I, the mutant molecule of Group II, nor the protein and method of Group IV. The protein of Group IV is not shared with any of the other groups.